Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Request by Itron, Inc. for	)	WT Docket No. 13-195
Waivers of the Commission's Rules	)	

COMMENTS OF USA MOBILITY, INC.

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COMMENTS OF USA MOBILITY, INC.

USA Mobility, Inc. ("USA Mobility") hereby submits the following comments opposing the request of Itron, Inc. ("Itron") for waivers of several rules in connection with paging licenses it acquired at auction in August 2010.[1]

INTRODUCTION AND SUMMARY

Through the requested waivers, Itron seeks to repurpose frequencies authorized for one-way paging services to support a more complex, two-way "advanced communication system" that Itron would then use in connection with smart grid systems.[2] But, as discussed below, the proposed waivers would present a potentially serious risk of interference with USA Mobility's paging systems, which are vital to hospitals, emergency responders, and other public safety officials. And risking such interference is entirely unnecessary in this context, as other, more suitable frequency bands are readily available to support Itron's smart grid operations. Most notably, if Itron wants to use paging frequencies to enable two-way, machine-to-machine communications, it should obtain *two-way* paging licenses (as some other smart grid providers

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1 *Wireless Telecommunications Bureau Seeks Comment on Itron, Inc. Request for Waivers of Part 22 Rules to Facilitate Provision of Non-Paging Operations Over 931 MHz Licenses*, Public Notice, WT Docket No. 13-195, DA 13-1733 (rel. Aug. 8, 2013) ("Public Notice"); *see also* Request for Waiver, Itron, Inc., WT Docket No. 13-195 (filed Dec. 17, 2012) ("Waiver Request").

2 Waiver Request at 1.

have done), rather than seeking a fundamental repurposing of the one-way spectrum it acquired. Moreover, Itron acknowledges that it holds "multiple Part 90 and Part 101 licenses covering private land mobile, private microwave, and multiple address system operations," and also makes use of unlicensed bands in its smart grid operations.[3]

The Commission therefore should deny Itron's waiver requests, as the interference risks presented and the alternative spectrum available preclude any finding of "good cause" to deviate from the core technical rules applicable to Itron's one-way paging licenses.[4] Indeed, when Itron acquired its one-way paging licenses at auction, it knew precisely what constraints applied and nevertheless chose to purchase those licenses subject to those constraints (rather than acquiring two-way paging licenses at a greater cost). In these circumstances, granting Itron far more expansive usage rights after the fact, while presenting needless risks to USA Mobility's public safety operations, would encourage other licensees to game the auction process and would harm the public interest more broadly.

In all events, if the Commission is inclined to consider fundamental changes to the technical rules governing one-way paging frequencies, it should do so through a rulemaking proceeding, rather than by granting waivers to Itron based on a barebones, incomplete technical submission. Consistent with the Commission's usual approach in analogous circumstances, a rulemaking here would offer a more appropriate means of exploring whether and to what extent two-way transmissions can coexist with adjacent, high-powered one-way paging operations.

BACKGROUND

USA Mobility is the nation's leading provider of traditional one-way and advanced two-way paging services, supplying mission-critical messaging for hospitals; police, fire, and rescue

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3 Waiver Request at 2.

4 47 C.F.R. § 1.3.

operations; and many utilities and other businesses or governmental agencies that respond to emergencies. As of June 30, 2013, USA Mobility provided service to more than 1.4 million messaging devices.[5]

Paging's technological characteristics make it especially well-suited for use during emergency situations. USA Mobility's paging network utilizes high-power transmissions (up to 3,500 watts effective radiated power), with typical antenna heights of 300 feet or more, thus ensuring broad signal coverage. USA Mobility's network also simulcasts signals from multiple antennas, providing a wider coverage area and better in-building penetration than other wireless technologies, and also resulting in natural redundancy in the event of the loss of one or more transmission towers. In addition, the use of satellite backhaul and network control minimizes dependency on the public switched telephone network ("PSTN") and enables rapid restoration of services.

In addition, paging has many attributes that make it practical for emergency personnel. Paging services interconnect with computers, e-mail, cell phones, and PDAs. Pagers can provide one-way, two-way, one-to-one, and one-to-many text messaging. Paging devices also are inexpensive and simple to operate, and have a long battery life from AA or AAA batteries that are easily replaced and do not need to be recharged. And paging systems can be provisioned and activated quickly.

At the same time, the sensitivity of paging receivers makes them vulnerable to interference. Because paging receivers are designed to decode data down to very low field strength levels (14 •V/m), and also must maintain very strict timing to remain synchronized with the forward channel, commercial deployments of many near-field transmitters to paging

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[5] Press Release: USA Mobility Reports Second Quarter Operating Results (Aug. 1, 2013), *available at* http://usamobility.com/about_us/investor_relations/.

receivers on adjacent channels could threaten the reliability of USA Mobility's operations, and in turn jeopardize public safety.

DISCUSSION

I. THE REQUESTED WAIVERS PRESENT SERIOUS AND UNWARRANTED RISKS OF INTERFERENCE WITH USA MOBILITY'S PAGING OPERATIONS

Itron claims that its proposed operations "pose no risk of interference,"[6] but this bare assertion is unpersuasive in light of the various issues that Itron's Waiver Request fails to address. Indeed, Itron omits critical technical details regarding its proposed operation of a two-way network, and neither the Waiver Request nor the accompanying two-page "Technical Statement" from Itron's in-house engineer makes any serious effort to address the potential real-world impacts on paging networks (such as USA Mobility's) operating on adjacent channels.

USA Mobility's engineering team has carefully reviewed Itron's submission and identified the following specific concerns.

- *First*, Itron's request to waive Sections 22.531[7] and 22.515 of the Commission's rules to permit half-duplex operations (in lieu of one-way transmissions) could cause interference to USA Mobility's paging services, depending on the means of implementation. Itron makes no specific mention of the access methodology utilized by end-point devices communicating with readers and/or concentrators collecting data. If Itron intends to employ access methods not utilizing carrier sensing multiple access ("CSMA"), time division multiplexing ("TDM"), or some

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6 Waiver Request at 7.

7 Although the Waiver Request purports to seek relief from Section 22.561 of the Commission's rules, the Public Notice issued by the Wireless Telecommunications Bureau indicates that the Bureau will "treat Itron's filings as seeking a waiver of section 22.531 (instead of 22.561) to the extent necessary." Public Notice at 2. USA Mobility accordingly addresses Itron's request as if it applied to Section 22.531.

other contention mitigating technique, then the end-point transmissions would have interference potential due to the very large number of devices expected in commercial smart grid deployments.

- Itron suggests that very low duty cycles would prevent harmful interference,[8] but that claim may be inconsistent with its planned operations. Itron describes three distinct types of reverse channel transmissions that would occur—from end points, repeaters, and readers (which may transmit at power levels up to 100 watts ERP). It is not clear from Itron's Waiver Request whether end points themselves might act as repeaters. If so, the duty cycle would be greatly increased for some end points units that might relay more distant data transmissions. Based on the sensitivity of paging receivers and their need for strict synchronization with the forward channel, the commercial deployment of thousands of near-field transmitters adjacent to USA Mobility's paging operations may cause deleterious adjacent channel RF energy. In turn, such RF energy could affect paging receivers' automatic frequency compensation ("AFC") and synchronous operation with forward channels.
- *Second*, USA Mobility is concerned that Itron's proposed half-duplex transmissions could experience interference from USA Mobility's high-powered paging transmissions—and that Itron in turn would seek to limit USA Mobility's operations in some manner (much as interference concerns involving GPS receivers have been cited as a basis to limit Lightsquared's operations using its licensed L Band spectrum). Itron's Waiver Request states that only one (forward

[8] Waiver Request at 4, 6.

or reverse) path would be utilized at any given time on a licensed channel,[9] but does not indicate whether Itron would implement a forward and reverse path on *each* licensed channel. Were Itron instead to create separate forward and reverse channels for their communications paths (in markets where they hold multiple licenses) using frequency division multiple access ("FDMA"), the interference potential from incumbent paging operations would be significant, due to the greater duty cycle and higher-power emissions from paging transmitters. For this reason, as a matter of sound spectrum planning, the Commission historically been careful to separate high-power forward and low-power reverse channel paths by pairing these communication paths with substantial frequency separation. Depending on its contemplated network design, Itron's proposed half-duplex operations could undermine this bedrock principle.

- *Third*, Itron's proposal to waive the 1.5 ppm frequency tolerance limit under Section 22.355 of the Commission's rules suffers from similar flaws. The Waiver Request and attached Technical Statement both fail to discuss what measures, if any, would be implemented by the end point devices to ensure that operation of the "narrow band" emission is constrained to meet the required emission mask while in outdoors operation experiencing diurnal and seasonal temperature fluctuations. As noted above, the very sensitive nature of paging receivers makes them especially vulnerable to out-of-band data emissions from nearby transmitters, which can affect the paging devices' AFC and synchronous operation with forward channels. USA Mobility's nationwide deployment of

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9 *Id.* at 6.

some 1.5 million paging receivers would be at risk from Itron's mass deployment of devices operating in outdoor environments, where environmental conditions may produce non-conforming RF energy outside the specified spectral mask. Itron's business interest in extending the battery life of its devices cannot justify granting waivers that may well cause harmful interfere to incumbent licensees and their customers.[10]

- *Fourth*, the notion of granting prospective waiver relief for any one-way licenses acquired by Itron in the future would significantly expand the scope of the interference concerns presented above. And because such waiver relief would apparently apply automatically, without any further review, there would be no meaningful opportunity to prevent harmful interference from occurring.

The risk of interference to USA Mobility's operations presents heightened concerns in light of the nature of the company's customer base. As noted above, USA Mobility's customers consist overwhelmingly of hospitals, emergency responders, and other government officials. They use pagers to support critical communications, for which reliability is paramount; indeed, in the case of hospitals, "code blue" pages are a matter of life and death. Accordingly, the vague nature of many of Itron's proposals, together with the significant risks inherent in the operation of forward and reverse channels on adjacent frequencies (especially where highly sensitive receivers are at issue), combine to warrant extreme caution in evaluating the requested waivers.

Were the one-way paging band the only spectrum available to support smart grid operations, Itron's request for relief might present a closer call. But the fact of the matter is that Itron easily could have acquired two-way paging spectrum to achieve its desired "[m]ulti-

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[10] Waiver Request at 9 (asserting that the need to maintain a 1.5 ppm frequency tolerance would shorten battery life).

directional communication capability."[11] And there are various other two-way spectrum bands available to Itron, some of which it is using already.[12] In such circumstances, even apart from the interference risks at stake, it would be inappropriate to authorize Itron to convert its one-way licenses into two-way authorizations, as the Commission has recognized in analogous contexts.[13]

Indeed, allowing Itron to purchase one-way licenses at auction (in lieu of acquiring available two-way paging licenses) only to turn around and seek fundamental changes to the applicable service rules would encourage companies to game the auction process in the future. Itron points out that it was the sole bidder for many of the licenses it acquired, suggesting that the lack of interest in this spectrum warrants expanded usage rights.[14] But Itron overlooks the obvious point that most companies that require two-way communications capabilities seek to acquire two-way licenses (which, again, are readily available for paging services and other forms of data communications), rather than bidding on one-way frequencies and then asking the Commission to make fundamental changes to the service rules via the waiver process. By the same token, if prospective auction participants had believed that the one-way frequencies might be available for two-way operations, with increased frequency tolerances, then the participation in Auction 87 likely would have been much broader, and auction prices would have increased substantially. Granting Itron far more expansive usage rights than it paid for would confer an unjustified windfall and would undermine the integrity of the auction process. As discussed

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11 *Id.* at 5.

12 *Id.* at 2.

13 *See, e,g., Waiver Requests by Clarity Media Systems, LLC to Operation Cars Stations at Flying J Travel Plazas*, Order, 22 FCC Rcd 8382 (2007) (denying waiver request that would have effected fundamental changes to the service at issue where the applicant had reasonable alternatives available).

14 Waiver Request at 8.

below, if the Commission entertains such changes to the applicable service rules at all, it should do so through the rulemaking process, consistent with well-established precedent.

II. THE COMMISSION SHOULD NOT FUNDAMENTALLY ALTER THE NATURE AND PURPOSE OF ONE-WAY PAGING LICENSES VIA *AD HOC* WAIVERS

Itron seeks waivers from rules that provide the foundation for the Commission's policy of maintaining certain frequencies exclusively for one-way paging services—services that are vital to the provision of emergency services. As described above, the requested waivers not only would result in a repurposing of the one-way spectrum band but also present serious risks of interference with USA Mobility's pre-existing paging services. In these circumstances, reliance on *ad hoc* waivers would be inappropriate, especially given the alternative spectrum bands available to Itron for smart grid services. Indeed, when requested waivers would result in fundamental changes to applicable service rules and would risk interference to incumbent users, the Commission has consistently determined that such modifications should occur, if at all, only through the rulemaking process.

For example, when DISH Network recently sought waivers as a means of modifying the Ancillary Terrestrial Component ("ATC") service rules applicable to the 2 GHz MSS spectrum it had acquired, the Commission determined that a rulemaking proceeding was more appropriate to address the relevant issues.[15] In response to DISH's waiver requests, commenters identified potential interference concerns and emphasized that the integrated services requirement was a core aspect of the ATC rules.[16] The Commission accordingly concluded that it is "in the public

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15 *New DBSD Satellite Services G.P., Debtor-In-Possession Terrestar Licensee Inc., Debtor-In-Possession Requests for Rule Waivers and Modified Ancillary Terrestrial Component Authority*, Order, 27 FCC Rcd 2250 (2012) ("*DISH ATC Order*").

16 *See, e.g.*, Reply of AT&T at 4-5, IB Docket No. 11-149 (filed Nov. 3, 2011).

interest to consider the issues raised by the request to waive certain . . . ATC provisions in the rulemaking context."[17]

For similar reasons, the Commission denied a waiver request from FreePage Corporation that would have enabled FreePage's commercial mobile radio service licensees to use their assigned channels to broadcast audio programming in contravention of Section 22.323.[18] The Commission concluded that, because no unique or unusual factual circumstances applied to FreePage, the waiver request implicated the broader question whether Commission rules should be amended or eliminated, which is "more properly the subject of a rulemaking."[19]

The Commission likewise determined in *Omnitronics, LLC* that the public interest would not be well-served through an *ad hoc* waiver process.[20] Omnitronics sought to sell a product that would enable wireless, hands-free operation of a Citizens Band ("CB") radio transmitter and requested a waiver of the rule that prohibited such operation of a CB transmitter by radio remote control.[21] The Commission denied the requested waiver because Omnitronics failed to provide details sufficient to address interference concerns and its request implicated the fundamental purpose of the applicable rule.[22] Indeed, the Commission observed that granting a waiver in such circumstances "could circumvent the Commission's rulemaking process by inviting numerous similar requests."[23]

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17 *DISH ATC Order* ¶ 29.

18 *FreePage Corp.*, Order, 15 FCC Rcd 2556, ¶ 1 (2000).

19 *Id.* ¶ 8.

20 *Omnitronics, LLC*, Order, 18 FCC Rcd 23064 (2003).

21 *Id.* ¶ 2.

22 *Id.* ¶ 6.

23 *Id.*

The same considerations make a rulemaking the appropriate means of addressing Itron's proposed changes to one-way paging service rules. Just as the technical modifications sought by DISH, FreePage, and Omnitronics affected fundamental aspects of the relevant service rules and presented potential interference concerns that required further exploration, so too do Itron's request for waivers of core aspects of the one-way paging rules. The Commission therefore should initiate a rulemaking if it seeks to make one-way paging frequencies available for two-way smart grid applications.

CONCLUSION

For the foregoing reasons, USA Mobility urges the Commission to deny Itron's request for waivers of the core service rules applicable to the one-way paging licenses it acquired at auction, and at most to initiate a rulemaking proceeding to address potential changes to those service rules.

Respectfully submitted,

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